Bachelor of Science in Mathematics: Applied Statistics Specialization Suggested Plan

For students entering in an **_ODD_** year:

Fall of 1st Year (odd) (15 hours)		Spring of 1st Year (even) (14 hours)	
MA 151 – Calculus I	(5)	MA 152 – Calculus II	(5)
WU 101 – Washburn Experience	(3)	EN 101 – Freshman Composition	(3)
MA 140 - Statistics (pre-req for MA340/341)	(3)	MA 340 – ANOVA/Design of Experiments	(3)
CM 111 – Structured Programming	(4)	CM 245 – Contemporary Programming	(3)
Fall of 2nd Year (even) (15 hours)		**Spring of 2nd Year (odd) (15 hours)**	
MA 253 – Calculus III	(3)	MA 341 – Nonparametric Test/QC	(3)
MA 301 – Linear Algebra	(3)	CM 307 – Data Structures/Alg Analysis	(3)
MA 206 – Discrete Structures	(3)	Natural Science General Education	(3)
Social Sciences General Education	(3)	Humanities Gen Ed AR/TH/MU	(3)
Natural Science General Education	(3)	Elective	(3)
Fall of 3rd Year (odd) (15 hours)		**Spring of 3rd Year (even) (15 hours)**	
MA 344 – Math Statistics I	(3)	MA 345 – Math Stat II	(3)
MA 342 – Statistical Computing	(3)	MA 347 – Stochastic Processes	(3)
EN 300 – Advanced Composition	(3)	Humanities General Education	(3)
300 level CM Course	(3)	300 level CM Course	(3)
Social Sciences General Education	(3)	Elective	(3)
Fall of 4th Year (even) (15 hours)		**Spring of 4th Year (odd) (16 hours)**	
MA 346 – Regression	(3)	MA 348 – Time Series	(3)
CM 332 – Data Mining	(3)	CM 336 – Database Mgmt Systems	(3)
Social Sciences General Education	(3)	Natural Science General Education	(3)
Elective	(3)	Humanities General Education	(3)
Elective	(3)	Electives /300 level if needed	(4)

For students entering in an **_EVEN_** year:

Fall of 1st Year (even) (15 hours)		Spring of 1st Year (odd) (14 hours)	
MA 151 - Calc and Anal Geometry I	(5)	MA 152 - Calc and Anal Geometry II	(5)
MA 140 – Statistics (pre-req for MA340/341)	(3)	EN 101 – Freshman Comp	(3)
WU 101 – Washburn Experience	(3)	MA 341 – Nonparametric Test/QC	(3)
CM 111 – Structured Programming	(4)	CM 245 – Contemporary Programming	(3)
		Humanities Gen Ed AR/TH/MU	(3)
Fall of 2nd Year (odd) (15 hours)		**Spring of 2nd Year (even) (15 hours)**	
MA 253 - Calc and Anal Geometry III	(3)	MA 340 – ANOVA/Design of Experiments	(3)
MA 342 – Statistical Computing	(3)	CM 307 – Data Structures/Alg Analysis	(3)
MA 206 – Discrete Structures	(3)	Natural Science General Education	(3)
Social Sciences General Education	(3)	Humanities Gen Ed AR/TH/MU	(3)
Natural Science General Education	(3)	Elective	(3)
Fall of 3rd Year (even) (15 hours)		**Spring of 3rd Year (odd) (15 hours)**	
MA 346 – Regression	(3)	MA 348 – Time Series	(3)
EN 300 – Advanced Composition	(3)	CM 336 – Database Mgmt Systems	(3)
300 level CM Course	(3)	Humanities General Education	(3)
Social Sciences General Education	(3)	300 level CM Course	(3)
Elective	(3)	Elective	(3)
Fall of 4th Year (odd) (15 hours)		**Spring of 4th Year (even) (16 hours)**	
MA 301 – Linear Algebra	(3)	MA 345 – Math Stat II	(3)
MA 344 – Math Statistics I	(3)	MA 347 – Stochastic Processes	(3)
CM 332 – Data Mining	(3)	Natural Science General Education	(3)
Social Sciences General Education	(3)	Humanities General Education	(3)
Elective	(3)	Electives/300 level if needed	(4)

Course rotation schedule:

Every Fall	Odd Fall	Even Spring	Even Fall	Odd Spring
MA 301	(FA21 only)	MA 340	MA 346	MA 341 (Start SP 23)
	MA 342	MA 345	MA 384	MA 348
	MA 344	MA 347		MA 385

List of Required Courses:

- MA 151 - Calculus and Analytic Geometry I
  - Prerequisites: MA 117 – Trigonometry, OR Four years of high school mathematics, including trigonometry; or, MA 123 Precalculus; or, a math ACT score of 28 or higher
- MA 152 - Calculus and Analytic Geometry II
- MA 253 - Calculus and Analytic Geometry III
- MA 301 - Linear Algebra
  - Prerequisite: MA253 - Calculus and Analytic Geometry III
- MA 340 (3) ANOVA/Design of Experiments
  - Prerequisite: MA 140 Statistics
- MA 341 (3) Nonparametric Tests/QC
  - Prerequisite: MA 140 Statistics
- MA 342 (3) Statistical Computing
  - Prerequisite: MA 140 Statistics
- MA 344 - Mathematical Statistics I
  - Prerequisites: MA 253 - Calculus and Analytic Geometry III, or concurrent
  - MA 340 – ANOVA/Design of Experiments _or_ MA 341 – Nonparametrics/Quality Control
- MA 345 - Mathematical Statistics II
  - Prerequisite: MA 344 - Mathematical Statistics I
- MA 346 – Regression Analysis
  - Prerequisite: MA140 – Statistics
- MA 347 – Stochastic Processes
  - Prerequisite: MA 344 - Mathematical Statistics I
- MA 348 – Time Series Analysis
  - Prerequisites: MA 344 - Mathematical Statistics I
  - MA 346 – Regression Analysis
- CM 111 (4) – Structured Programming
  - Prerequisites: MA 116 – or higher
- CM 245 (3) – Contemporary Programming Methods
  - Prerequisites: CM 111
- CM 307 (3) – Data Structures and Algorithmic Analysis
  - Prerequisites: MA 206 and CM 245
- CM 332 (3) – Data Mining
  - Prerequisites: CM 307 and MA 140
- CM 336 (3) – Database Management Systems
  - Prerequisites: CM 307 or CM 335

Other requirements:

- WU 101, EN 101, EN 300
- 9 hours of Social Sciences Gen Ed courses
- 9 hours of Humanities Gen Ed courses with 3 hours in AR/MU/TH
- 9 hours of Natural Sciences Gen Ed courses
- 45 hours of 300 level courses
- 30 hours from Natural Sciences with at least 20 of these hours in one department (BI 102+, PS 261+, CH 121+, AS 101+, CM 111+).